

**PENGARUH PERBEDAAN DOSIS PUPUK LIMBAH CAIR TAHU DENGAN  
PENAMBAHAN  $\text{Na}_2\text{HPO}_4$  TERHADAP PERTUMBUHAN, BIOMASSA, DAN  
KLOROFIL a *Chaetoceros calcitrans***

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**Abstrak**

Penelitian ini bertujuan untuk menjelaskan pengaruh dosis pupuk limbah cair tahu dengan penambahan  $\text{Na}_2\text{HPO}_4$  dan untuk menentukan dosis terbaik pupuk limbah cair tahu dengan penambahan  $\text{Na}_2\text{HPO}_4$  terhadap pertumbuhan, biomassa, dan klorofil a *C. calcitrans*. Metode penelitian yang digunakan yaitu metode eksperimen Rancangan Acak Lengkap (RAL) dengan 3 perlakuan dan 1 kontrol masing – masing 3 ulangan. Perbedaan perlakuan pupuk limbah cair tahu yang digunakan yaitu 100 ml/L +  $\text{Na}_2\text{HPO}_4$  0,6 ml, 120 ml/L +  $\text{Na}_2\text{HPO}_4$  0,6 ml, 140 ml/L +  $\text{Na}_2\text{HPO}_4$  0,6 ml, dan kontrol walne 1 ml/L dengan penambahan silikat 1 ml/L pada semua perlakuan. Hasil penelitian menunjukkan bahwa perbedaan dosis pupuk limbah cair tahu mempengaruhi pertumbuhan, biomassa dan klorofil *C. calcitrans*. Hasil terbaik pupuk limbah cair tahu yaitu pada perlakuan 100 ml/L +  $\text{Na}_2\text{HPO}_4$  0,6 ml menghasilkan kepadatan sel  $45,13 \times 10^5$  sel/ml dengan nilai laju pertumbuhan spesifik 0,424/hari, biomassa 0,089 g/L dan klorofil a 2,209  $\mu\text{g}/\text{ml}$ . Pupuk limbah cair tahu dengan penambahan  $\text{Na}_2\text{HPO}_4$  bisa menjadi salah satu alternatif media kultur *C. calcitrans* untuk mendapatkan pertumbuhan, biomassa dan klorofil a.

Kata kunci: *Chaetoceros calcitrans*, pupuk limbah cair tahu, pertumbuhan, biomassa, klorofil a

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**EFFECT OF DIFFERENT TOFU WASTEWATER FERTILIZERS WITH  $\text{Na}_2\text{HPO}_4$   
ENRICHMENT ON GROWTH, BIOMASS, AND CHLOROPHYLL a OF  
*Chaetoceros calcitrans***

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**Abstract**

The purpose of this study was to show the effect of different tofu wastewater fertilizers with  $\text{Na}_2\text{HPO}_4$  enrichment and to determine the best treatment of tofu wastewater fertilizer with  $\text{Na}_2\text{HPO}_4$  enrichment on growth, biomass, and chlorophyll a *C. calcitrans*. Three treatments and one control with three replications and experimental completely randomized design were used for this study. Tofu wastewater fertilizers was used 100 ml/L +  $\text{Na}_2\text{HPO}_4$  0.6 ml, 120 ml/L +  $\text{Na}_2\text{HPO}_4$  0.6 ml, 140 ml/L +  $\text{Na}_2\text{HPO}_4$  0.6 ml and control walne 1ml/L as different treatment for this study with silicate (1 ml/L) addition for all treatment. In this study, tofu wastewater fertilizers with  $\text{Na}_2\text{HPO}_4$  enrichment were investigated had effect on growth, biomass, and chlorophyll a of *C. calcitrans*. The best results of tofu wastewater fertilizers with  $\text{Na}_2\text{HPO}_4$  enrichment on this study were obtained in 100 ml/L +  $\text{Na}_2\text{HPO}_4$  0.6 ml treatment can produced cell concentration  $45.13 \times 10^5$  cell/ml with specific growth rate 0.424/day, biomass 0.089 g/L and chlorophyll a 2.209  $\mu\text{g}/\text{ml}$ . Cultivation of *C. calcitrans* using tofu wastewater fertilizers with  $\text{Na}_2\text{HPO}_4$  enrichment could be considered a feasible alternative to growth, biomass and chlorophyll a yield of *C. calcitrans*.

Key word : *Chaetoceros calcitrans*, tofu wastewater fertilizer, growth, biomass, chlorophyll a

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